# INSTALLATION MANUAL
# XM3 Reader

Version 1.2 (25-08-2011)

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# 1      Introduction

Thank you for using XM3 MICROPROXS™ for your access control application. XM3 is a powerful access control system which can be used for single door access, as well as for connection to any type of on-line access control system.

- XM3 MICROPROXS™ units can also be mounted in an RS485 network without the need of a separate access control system.

- XM3 as stand-alone unit offers many possibilities such as:

- Access control

- XM3 Manage software for stand-alone PC programming, event logging and user database maintenance

- Unlock option (during working hours)

- Day/Night lock option (manual or automatic switching)

- Master/slave installation

- Optional use of a wireless PIN keypad

- Using an external relay (to prevent potential tampering)

For further information please visit our website at www.crosspoint.nl.

**NOTE**    If you use XM3's in a network, be sure that all readers have a unique address. Cross Point delivers XM3 with an address between 1 and 31. If you don't want to change the address on location, be sure that you bring XM3's with unique addresses that can be found on the reader or on the package.

# 2 Installation information

## 2.1 Product label

The product label of the XM3 is located under the plastic cover. Remove the cover to view this information.

The label contains the following information:

- Manufacturer name
- Product name
- Serial number
- Production date
- Default address (between 1 and 31)
- Input power: 12V DC, 40mA
- Technology
- Firmware version
- CE marking
- Alert sign
- WEEE marking

## 2.2 Power supply

The XM3 requires a 12V DC power supply. It is advised to use a UL listed Access Control power supply.

Since the XM3 requires a permanent power supply, it is required that a readily accessible disconnect device is incorporated external to the equipment.

## 2.3 Connecting the wires

A 12 wire E111235 AWM STYLE 2560 60°C 30V low voltage computer cable is used for the XM3. In Table 1 the connections are listed.

**CROSS POINT**

| Wire | Stand-alone | Magstripe (ABA) | Wiegand |
|------|-------------|-----------------|---------|
| Brown | Extra ground | | |
| Violet | Relay out (O.C.) | | |
| Black | Ground | | |
| Red | Power (+11,5 - +12.5 VDC) | | |
| Yellow | RS-485B in + | | |
| Blue | RS-485B out - | | |
| White | RS-485A in + | | |
| Pink | RS-485A out - | | |
| Grey | IO1 Door contact input | \ RDP output | DATA 0 |
| Green | IO2 Ext. Night lock/Rec. ingang | \ RCP output | DATA 1 |
| Grey/Pink | IO3 Forced entry output | \ CLS output | |
| Red/Blue | IO4 Night lock enabled output | \ Access input | \Access |

**Table 1: Wiring the XM3**

In Figure 1, a graphical representation of the connections is given.
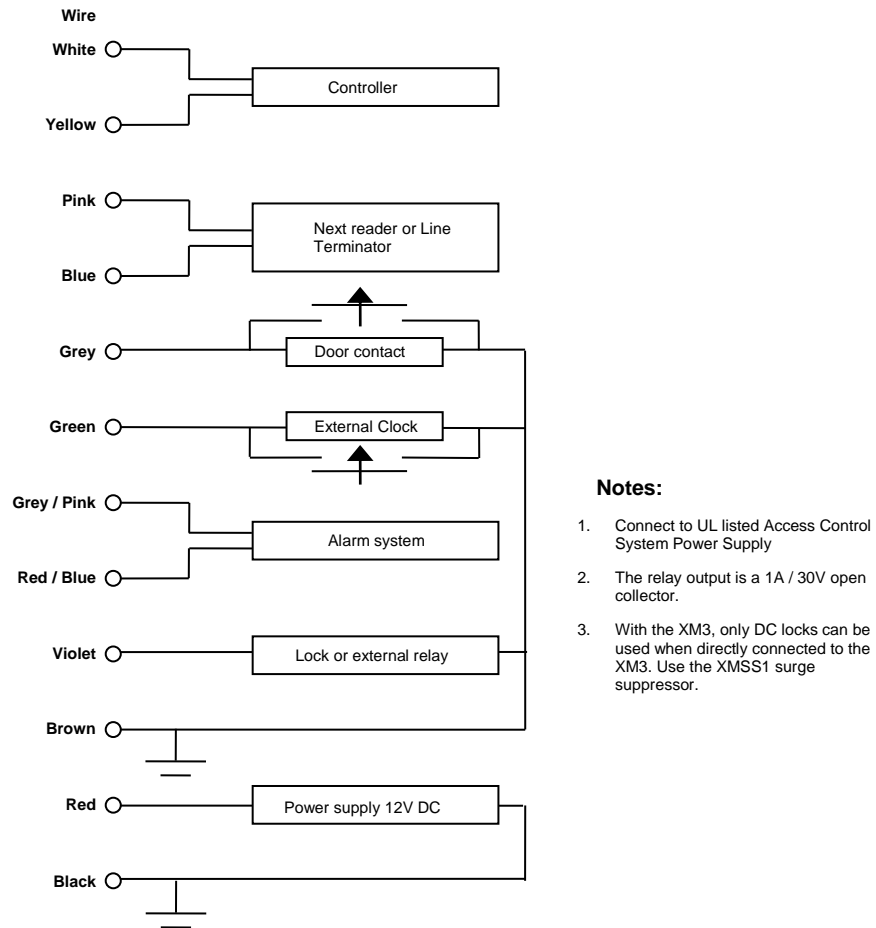


**Figure 1: Connection of the XM3**

## 2.4 Explanation of the XM3 LED indicators

The XM3 is provided with seven LED's which serve as status indicators. In Figure 2 their meaning is described.



| LED | Indicates |
|-----|-----------|
| LED 1 (yellow) | Indicates that a tag/remote programmer is within range of the XM3 |
| LED 2 (green) | Indicates that access is granted or that the XM3 is in Unlock Mode. |
| LED 3 (red) | Indicates that the door is closed |
| LED 4 (red) | Indicates that the XM3 is in Night Lock mode |
| LED 5 (red) | Indicates that the XM3 is in Add mode, and that cards are added |
| LED 6 (red) | Indicates that the XM3 is in Void mode, and that cards are voided |
| LED 7 (red) | Indicates that the XM3 is in Program Mode |

**Figure 2: LED indicators XM3**

# 3 XM3 Operating levels

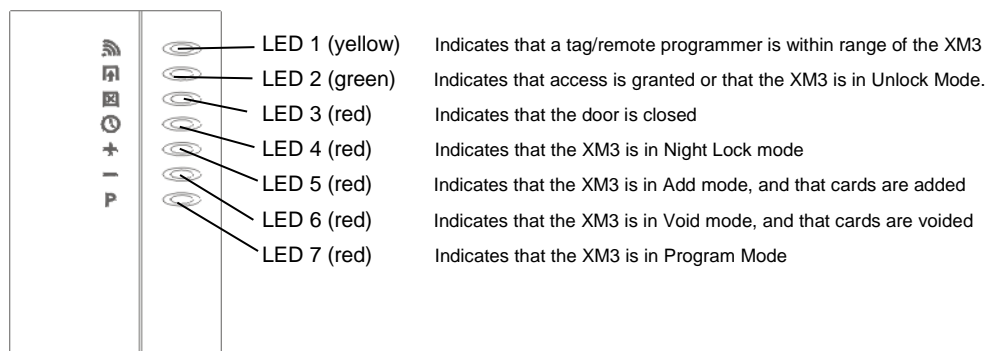The XM3 Proximity Reader distinguishes two operating levels:

- **Installer Level**. On this level the XM3 can be configured by the Installer. This level is also used to do typical Installer options.

- **User Level**. On this level typical user options can be set. Think of adding and voiding user cards, setting the door open time et cetera.

The programming steps mentioned in this manual represent a limited number of programming functions that can be performed by the Installer on an XM3. Please refer to the *XM3 Master Manual* for all the possibilities.

# 4 Configuring the XM3

The XM3 reader can be configured in the following ways:

- Using XM3 Manage
- Using a Remote Programmer
- Using Master Cards

## 4.1 Configuring the XM3 using XM3 Manage software

XM3 Manage is a PC application for stand-alone and networks of XM3 readers. Using XM3 Manage requires an advanced connection unit. Please refer to the connection unit manual for connections. For more information on how to program the XM3 by using XM3 Manage, please refer to the *Users guide XM3 Manage*.

### 4.1.1 Install XM3 Manage

To install XM3 Manage, take the XM3 Manage CD and insert it into your computer. Follow the instructions on the screen to install the application. After installation, select the application in the start menu that is located on: **All Programs\Cross Point\XM3 Manage 4.0**.

NOTE    The very first time that you start XM3 Manage, you are prompted to create an account for logging on to the application. Follow the instructions on the screen. The configuration Wizard is started and will configure your readers to communicate on the right baud rate and with the right file system. If you are missing readers, please check their addresses and see if they are all unique.

#### 4.1.1.1 Define a name for the reader

In XM3 Manage, you can define a name for each reader. Select the reader in the box on the upper left of the screen and select the menu item **Reader -> Change Name**. Now you can change the reader name.

NOTE    If you do not know where the reader was mounted and you need that information to give it a name, select **Reader -> Locate** to locate the reader.

Once you have identified all your readers, you can proceed with the next paragraph.

### 4.1.1.2 Set reader parameters

Now the reader parameters can be set. The parameters that have to be set on Installer authorization level are listed below. See the respective chapter in the *Users Guide XM3 Manage* on how to do these settings.

- Open time
- Close time
- Lock type
- Egress (request to exit Rex)

**NOTE** If you have more than one reader in your network, you can repeat the previously mentioned steps again or you can transfer the settings to the other readers.

### 4.1.1.3 Switch Authorization Level

The last step you have to do is to switch the readers to **user authorization level**.

Since during normal operation, the readers are at User authorization level, you have to switch to that level after the readers have been configured. Take the following steps to switch the level:

1. From the Menu bar, select **Reader -> Switch operational level**. The *Switch Reader Level* dialog is displayed.
2. Select the box **Switch all readers** to switch all readers in your Access Control system to the *User level*. When at *Installer level* and you want to switch to *User level*, the button **User level** is already selected.
3. Select the button **Switch**.
4. A processor indicates that switching is taking place.
5. Select the button **Close** to return to the application.

**NOTE** During normal operation it may be necessary to switch to Installer level to do some changes. Remember that after the changes have been made you have to switch back to the User level.

Now you have completed all the steps required to get a reader started. The end-user now can start creating accounts, managing users et cetera.

# CROSS POINT

## 4.2    Configuring the XM3 with a Remote Programmer

A remote programmer can be used to configure the XM3 and do settings in the XM3 by bringing it into the RF field of the XM3. The reading range of the programmers is max. 20mm. A programmed function may look like as follows:

The "n" in the function indicates an optional number.

**NOTE**    An Installer Remote Programmer can set all functions of the XM3. The User Remote Programmer enables you to program the user specific functions. Please refer to the Remote Programmer Manual for an overview of the differences.

The following steps describe on how to configure the XM3.
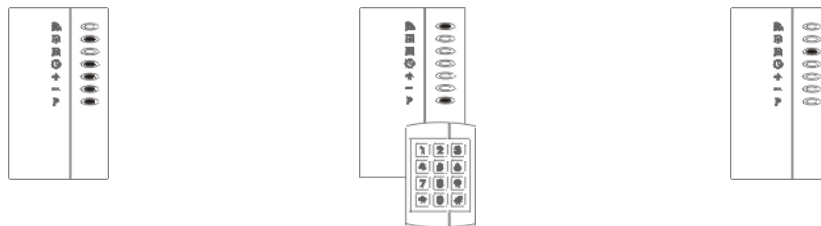
### 4.2.1    Wake up the XM3 from sleep mode

When you power up the XM3 from sleep mode, the XM3 is at Installer sleep mode.

**NOTE**    This programmer will become automatically the Installer Remote Programmer. It is convenient to identify the Remote Programmer as the Installer by labeling it.

The steps to wake up the XM3 are displayed in Figure 3.

1. Power on (XM3 is installer sleep mode).

2. Present a remote programmer in the RF field of the XM3.

3. Normal operation of the XM3 is resumed.

**Figure 3: Wake up the XM3 from sleep mode**

## 4.2.2 Set Open Time-out (11*)

Whenever access is granted, the relay of the XM3 will be activated during a certain number of seconds, called the Open Time-Out.

This period of time can be adjusted from 1 to 255 seconds. The default value is 2 sec, meaning that after presenting the tag to the XM3 reader, you have 2 seconds to open the door. If you want to use the default value, skip this step and proceed with the next.

To use another setting than the default one, take the steps as mentioned in Figure 4.

1. Enter Program Mode by presenting Installer Remote Programmer

2. Enter Open Time-out period

3. Normal operation of the XM3 is resumed.



**Figure 4: Set Open time-out**

## 4.2.3 Set Egress (20*)

Allows the connection of a push button mounted inside a building to grant passage when exiting. When set, this option will disable the external Night Lock control which uses the same I/O2 input. Egress is low active i.e. access is granted when I/O2 is connected to GND for a short while.

The default option is 20*0*, meaning that this function is disabled. If you want to use the default value, skip this step and proceed with the next.

To use another setting than the default one, take the steps as mentioned in Figure 5.

1. Enter Program mode by presenting the Installer Remote Programmer

2. Enter Egress option

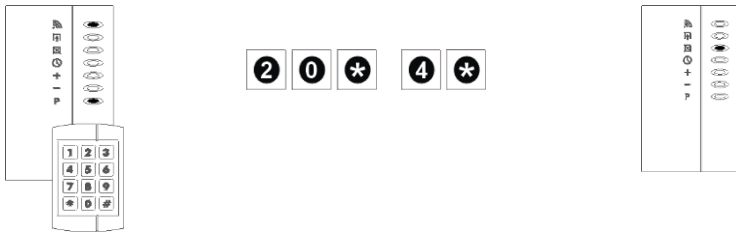3. Normal operation of the XM3 is resumed.



**Figure 5: Set Egress**

## 4.2.4    Set XM3 from Installer level to User level

Now the XM3 must be set to the user level.

**NOTE**    To prevent tamper alarms, make sure the XM3 cover is placed. If for any reason you need to go back to the installer level, just present the Installer Remote Programmer in the RF field of the XM3 and enter 0*1*.

To set the user level, take the steps as mentioned in Figure 6.

1. Enter Program mode by presenting the Installer Remote Programmer

2. Press 0*0*

3. The XM3 goes to User Sleep mode and switch the power OFF.

**Figure 6: Switch to User level**

## 4.2.5    Learn the User Remote Programmer

To be able to program functions on the XM3 at User level, a User Remote Programmer must be learned. To learn the User Remote Programmer, take the steps as mentioned in Figure 7.

1. Power on from User Sleep Mode

2. Present a second remote programmer
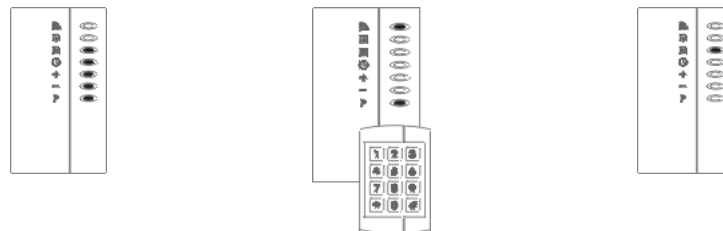
3. Normal operation is resumed.

**Figure 7: Learn User Programmer**

## 4.2.6    Set XM3 to sleep mode on User level

To proceed with the following steps, the XM3 must be set to User Sleep mode first. To set the XM3 in User sleep mode, take the steps as mentioned in Figure 8.

1. Enter Program mode by presenting the Installer remote programmer

2. Enter 0*0* in

3. Level shown

4. Go to sleep mode and Power OFF
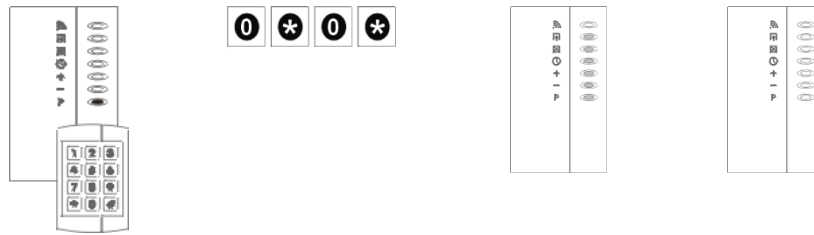
**Figure 8: Set User sleep mode**

# 4.3 Configuring the XM3 using Master Cards

Master cards are standard cards that have been "promoted" to perform certain management functions. Upon bringing the master card in the RF field of an XM3, the master card can be used to perform its task. The use of the Master Cards is explained in this manual.
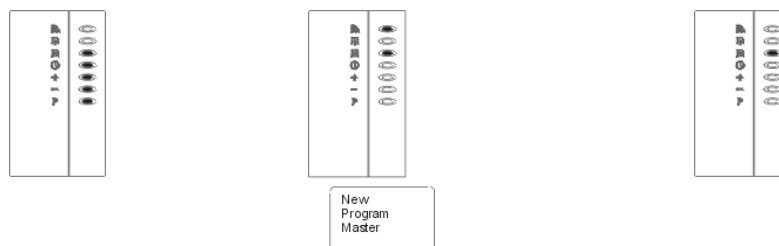
The following masters are available:

- Program master
- Void master
- Add Master
- Night Lock master
- Unlock master

## 4.3.1 Learn the Program Master

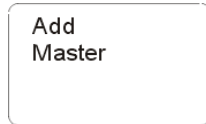To learn the Program Master, take the steps as mentioned in Figure 9.

**NOTE** To prevent tamper alarms, make sure the XM3 cover is placed.

1. Power on

2. Learn Program Master by presenting it to the XM3

3. Normal operation of the XM3 is resumed.



New Program Master

**Figure 9: Learn Program Master**

## 4.3.2 Learn other Master Cards

Master cards are standard tags that have been "promoted" to perform certain management functions. Upon bringing the master card in the RF field of an XM3, the master card can be used to perform its task. The use of the Master Cards is explained in this Quick Guide.

Add
Master

The following masters are available:
- Program master
- Void master
- Add master
- Night Lock master
- Unlock master

Learning all Master Cards consists of the steps 1 up and including 8 as mentioned in Figure 10. If you want to learn a certain Master Card, present the Program Master to skip the steps that are not applicable to get to the step where this Master Card can be learned. Learn the Master Card and present the Program Master again to resume Normal operation.

For instance, you want to learn just the Add Master. You have to present the Program Master 3 times to get to step 4, learn the Add Master and present the Program Master 4 times to resume normal Operation.

**NOTE** Upon presenting the Program Master, a specific LED of the XM3 will go ON, indicating which Master can be added.

1. Enter program mode by presenting the Program Master

2. Present Program Master again and the "-" LED will go ON indicating that the Void Master can be learned. Proceed with step 3.

3. Present Void Master to learn it to the XM3 and the "+" LED will go ON indicating that the Add Master can be learned. Proceed with step 4.

4. Present Add Master to learn it to the XM3 and the "" LED will go ON indicating that the Night Lock Master can be learned. Proceed with step 5.
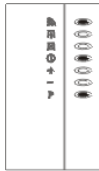
5. Present Night Lock Master to learn it to the XM3 and the "" LED will go ON. This LED has no specific meaning while learning Master Cards. Proceed with step 6.

6. Present program master and the "" LED will go ON to indicate that the Unlock Master can be learned to the XM3. Proceed with step 7.

7. Present the Unlock Master and the learning process automatically finishes and normal operation is resumed (see step 8).
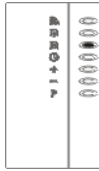
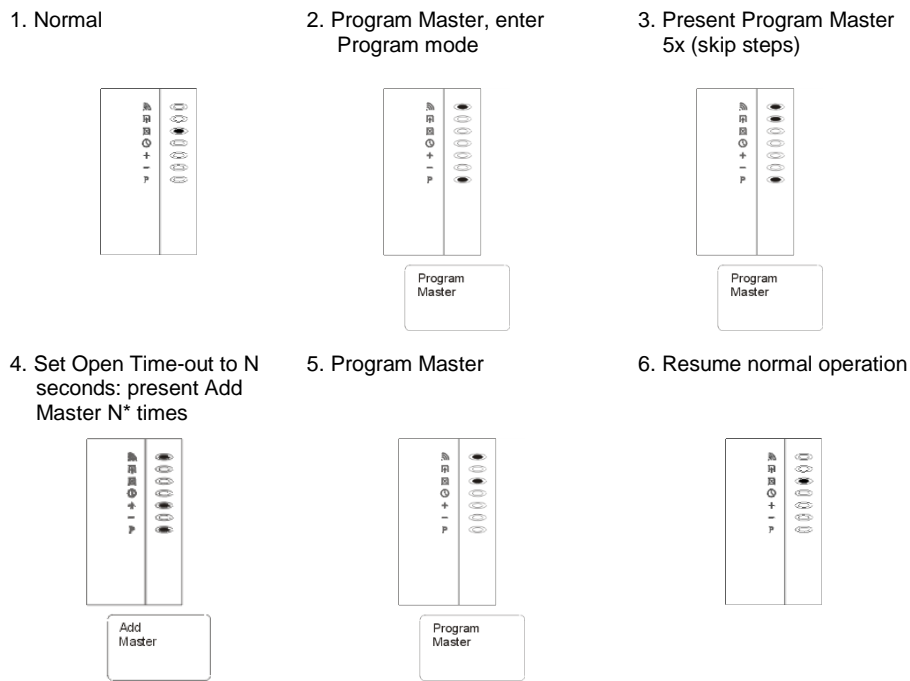8. Normal operation of the XM3 is resumed.
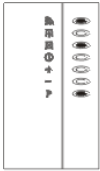
**Figure 10: Learn Master cards**

### 4.3.3 Set Open Time-out with Master Cards

Whenever access is granted, the relay of the XM3 will be activated during a certain number of seconds, called the Open Time-Out.

This period of time can be adjusted from 1 to 255 seconds. The default value is 2 sec, meaning that after presenting the tag to the XM3 reader, you have 2 seconds to open the door. If you want to use the default value, skip this step and proceed with the next.

To use another setting than the default one, take the steps as mentioned in Figure 11.

1. Normal

2. Program Master, enter Program mode

3. Present Program Master 5x (skip steps)

4. Set Open Time-out to N seconds: present Add Master N* times

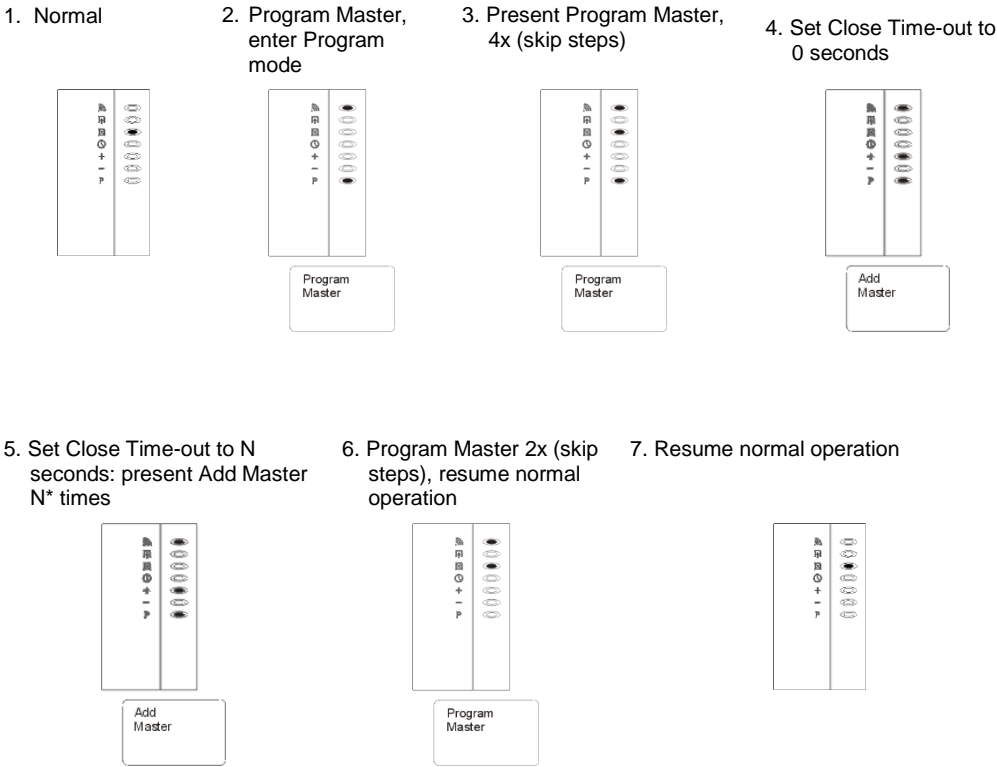5. Program Master

6. Resume normal operation

*N= 1-255

**Figure 11: Set Open Time-out with master cards**

## 4.3.4 Set Close Time-out with Master Cards

The XM3 has a special timer that is intended to check whether the gate or door has been closed within a specific period of time.

This period of time is adjustable from 0 to 255 seconds. The default value is "0", meaning that the function is disabled. If you want to use the default value, skip this step and proceed with the next.

**NOTE** I/O1 of the XM3 should be connected to ground or to ground via the door switch when using this option. To use another setting than the default one, take the steps as mentioned in Figure 12.



1. Normal

2. Program Master, enter Program mode

3. Present Program Master, 4x (skip steps)

4. Set Close Time-out to 0 seconds

5. Set Close Time-out to N seconds: present Add Master N* times

6. Program Master 2x (skip steps), resume normal operation

7. Resume normal operation

*N= 1-255

**Figure 12: Set Close Time-out with master cards**

## CROSS POINT

### 4.3.5 Adding cards with the Add Master Cards

If new cards must be part of your proximity system, the new cards must be added to the XM3. An easy way to add cards is by using the Add Master. To add cards with the Add Master cards, take the steps as mentioned in Figure 13.

**NOTE**    A card that already has been learned to the XM3 or a card that cannot be read correctly will cause the XM3 to generate an error.
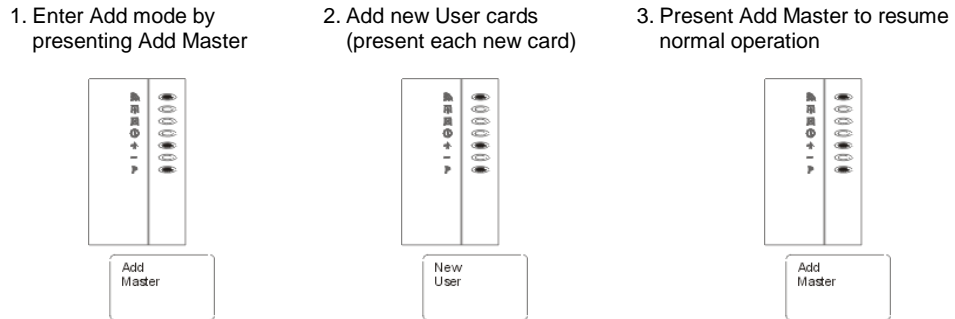
1. Enter Add mode by presenting Add Master

2. Add new User cards (present each new card)

3. Present Add Master to resume normal operation

**Figure 13: Adding cards with the Add Master**

### 4.3.6 Voiding cards with the Void Master

Using the Void Master is an easy way of removing cards from the XM3, provided that the cards that have to be removed are available. Take the steps as mentioned in Figure 14 to use the Void Master.
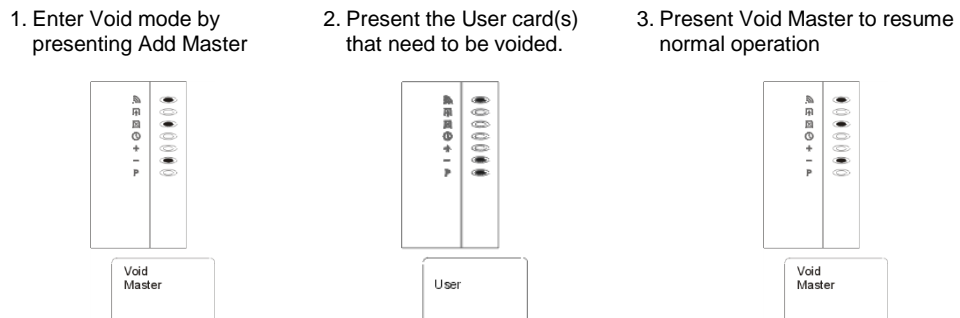
1. Enter Void mode by presenting Add Master

2. Present the User card(s) that need to be voided.

3. Present Void Master to resume normal operation

**Figure 14: Voiding cards with the Void Master**

## 4.3.7    Night Lock mode

The XM3 has a special Night Lock mode in which access is only granted to Always Access card users and the Night Lock Only card users. The Night Lock Master can be used to set the Night Lock mode. While being in the Night Lock mode, Normal Users have no access. In Figure 15 is displayed how to set the Night Lock mode.

1. Normal                   2. Present the Night Lock to      3. Night Lock mode set
                               the XM3
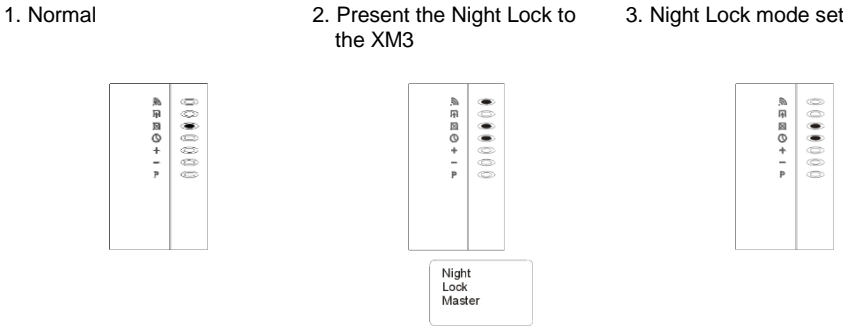


**Figure 15: Set Night lock mode**

Another use of the Night Lock master is to switch off the Night Lock mode and at the same time gain access to a building. For instance, present the Night Lock master to the XM3 in the morning to grant Normal Card users access. In Figure 16 is this use of the Night Lock master explained.

1. Night Lock mode           2. Switch Night Lock off          3. Resume normal operation
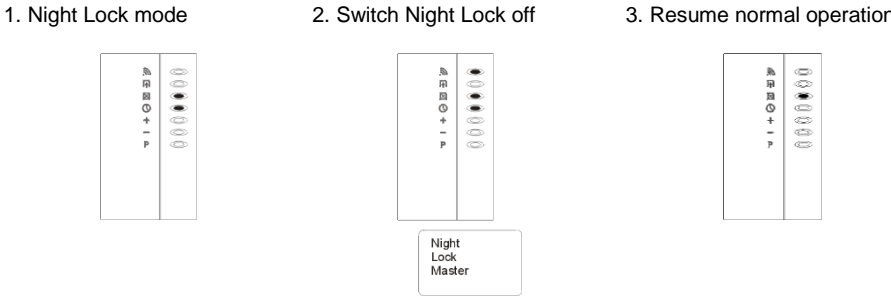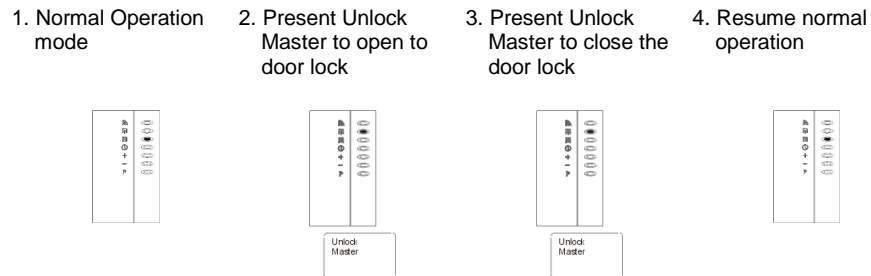


**Figure 16: Grant access with Night Lock Master**

To switch to Night Lock Mode, you just have to present the Night Lock Master again to the XM3.

**NOTE**    If you use XM3 Manage Pro with time schemes, this option has no effect.

## 4.3.8    Unlock mode

The *Unlock master* will open the door lock when presented to the XM3 provided that the *Night lock* mode is off. Presenting the *Unlock Master* again will set the XM3 back to normal operation. Take the steps as mentioned in Figure 17.

| 1. Normal Operation mode | 2. Present Unlock Master to open to door lock | 3. Present Unlock Master to close the door lock | 4. Resume normal operation |
|---|---|---|---|



**Figure 17: Using the Unlock master**

# 5      Security

For safety precautions the user is strongly advised to keep records of the functions and ID numbers of all tags and the name of the users. In case of loss, the specific tags can be voided from memory by entering the specific number using the Remote Programmer.

## 5.1     Privacy

Although only your installer and/or dealer can have the possibility through a Remote Programmer to a limited number of options, they are not able to gain access through any of these options. The XM3 is provided with a 'Protect mode' in which any (Remote) programming attempt will be blocked, except the user programmer.

## 5.2     Forced entry

If a forced entry situation occurs, a continuous alarm will sound. If required, a burglar alarm can be triggered. This option will only activate when a door contact is connected, and the Close Time-out is not set to zero. The alarm can be deactivated by repeating the programming procedure for setting Close Time-out to zero. The XM3 also has an anti tamper switch and alarm.

## 5.3     Molest

Although the XM3 is completely solid and equipped with an anti tamper switch and alarm, in case the XM3 is to be placed openly in a molest sensitive area, the XM3 owns the unique features of being both compact and applying RF technology. Because of these features it can be placed quite easily behind any material (except metal) with a thickness of max. 5 cm (2").